A Tradition of Quality and Innovation

For over 125 years, the Bosch name stands for quality and reliability. Bosch is the global supplier of choice for innovative technology, backed by the highest standards for service and support.

Bosch Security Systems proudly offers a wide range of security, safety, communications and sound solutions that are relied upon every day in applications around the world, from government facilities and public venues to businesses, schools and homes.

Bosch Security Systems
To learn more about our product offering,
please visit www.boschsecurity.com
or send an e-mail to
emea.securitysystems@bosch.com

© Bosch Security Systems, 2013
Modifications reserved
Printed in the Netherlands
VS-EH-en-55_F01U560825_04

www.facebook.com/BoschSecurity

twitter.com/BoschSecurityEU

IP Video product overview

November 2013

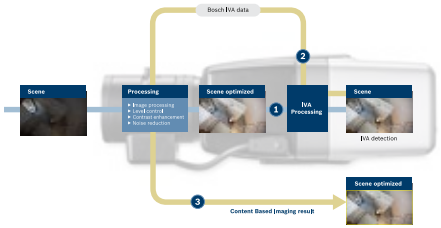
BOSCH
Invented for life

Table of Contents

Cameras overview	3
Dome Cameras	4
Fixed Cameras	9
Specialty Cameras	11
Moving Cameras	13
Software and Recording Solutions	15
Digital Recording	16
Digital Storage	18
Video Software	20
Encoders and Decoders	22
Flat Panel Monitors	23

IP Video
Cameras overview

Content Based Imaging Technology

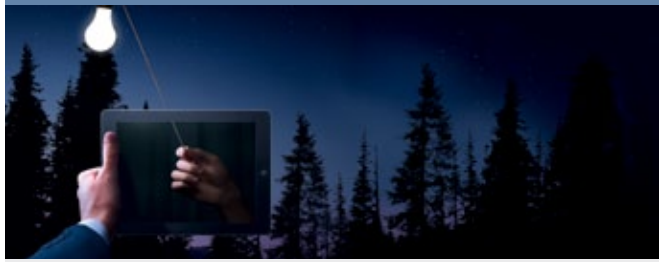


A first in the security industry, Bosch introduces a new technology for controlling image processing. Content - Based Imaging Technology (CBIT) is an intelligent scene analysis system that examines the actual content of the video image. This technology also provides feedback to the Digital Signal Processor (DSP) to retune the image processing.

Bosch is the only security camera manufacturer with full control over image processing, along with Intelligent Video Analysis (IVA) or Motion+. With this groundbreaking platform, CBIT enables the sensors, the image processing and IVA to work as one module. CBIT radically improves the image quality in many areas, but also has considerable impact when used to reduce noise.

CBIT offers Intelligent Dynamic Noise Reduction (iDNR) feature on 2000, 5000, 7000 and 9000 IP cameras.
In combination with our H264 encoding, Bosch IP cameras save 30% of your storage cost.

starlight Technology



The DINION and FLEXIDOME IP starlight 7000 - the most light-sensitive HD cameras in the market are the stars of the Bosch IP cameras portfolio.

With the development of its next generation, mega pixel IP camera, Bosch Security Systems has introduced cameras, which are specifically designed for high performance in extreme low-light conditions. It represents a breakthrough in light sensitivity in IP cameras, showing color images where others can show only black and white. And showing black and white where others show no image at all.

Integration Partner Program

Bosch IP standard and high-definition cameras, encoders and analytics work seamlessly with a wide range of security software and recording solutions - from Bosch and other industry providers.

Through ONVIF conformance, the open availability of Bosch video software development kits, and a team dedicated to special integration and support projects, it is easy to manage Bosch video products within your system design.

Visit ipp.boschsecurity.com for details on the Bosch Integration Partner Program.

IP Video
Dome Cameras

		▸FLEXIDOME IP micro 2000		▸FLEXIDOME IP micro 5000	
Commercial Type Number		**NUC-20002-F2**	**NUC-20012-F2**	**NUC-50022-Fxx**	**NUC-50051-Fxx**
Camera Type		Compact and stylish indoor IP microdome camera	Compact and stylish indoor HD microdome camera	Compact and stylish outdoor (Fx) or in-vehicle mount (F2M) HD microdome camera	Compact and stylish outdoor (Fx) or in-vehicle mount (F2M) MP microdome camera
Imaging	Maximum Resolution	480p	720p	1080p	5 MP
	Image Sensor Type	1/4" CMOS	1/4" CMOS	1/2.7" CMOS	1/3.2" CMOS
	Day/Night	■ (Electronic)	■ (Electronic)	■ (Electronic)	■ (Electronic)
	IR Sensitive	–	–	–	–
	Minimum Illumination [day mode]	1 lux	1 lux	1 lux	2 lux
	Minimum Illumination [night mode]	–	–	–	–
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■	■
	intelligent Auto Explosure [iAE]	–	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■	■
	Audio detection	■	■	–	–
	Intelligent Video Analysis [IVA]	–	–	–	–
	Privacy Masking	■	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	–	–	■	■
	Region Of Interest Tracking	–	–	–	–
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	2.5 mm/75°	2.5 mm/89°	4.37 mm (F4)/68° 2.5 mm (F2/F2M)/135°	3.74 mm (F4)/63° 2.5 mm (F2/F2M))/105°
	Automatic Back Focus	–	–	–	–
	Automatic Varifocal	–	–	–	–
Compression	Compression/Multi-streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	30 ips@480p	30 ips@720p	30 ips@1080p	12 ips@5MP
Audio	Built-in Microphone	■	■	–	–
	Built-in loudspeaker	–	–	–	–
	Audio Line In/Out	–/–	–/–	–/–	–/–
Input/output	Alarm Input/Output	–/–	–/–	–/–	–/–
	Hybrid capability [continuous IP + Analog out]	(on service mode)	(on service mode)	(on service mode)	(on service mode)
Electrical	Power Over Ethernet [PoE]	■	■	■	■
	Max. Power Consumption	2.80W	3.84W	3.84W	3.84W
Environmental	Vandal Resistant	–	–	IK8	IK8
	All-weather Rating [outdoor]	–	–	IP66	IP66
	Operating Temperature	-20° to 50° C (-4° to 122° F)	-20° to 50° C (-4° to 122° F)	-30° to 50° C (-22° to 122° F)	-30° to 50° C (-22° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	–	–
	Night Vision Maximum Range	–	–	–	–
Integration	ONVIF conformant	■	■	■	■

IP Video
Dome Cameras

▸FLEXIDOME IP indoor 5000

Commercial Type Number		NIN-50022-V3	NIN-50051-V3	NII-50022-V3
Camera Type		indoor HD dome camera with varifocal lens	indoor MP dome camera with varifocal lens	indoor HD dome camera with Built-in IR illuminator and varifocal lens
Imaging	Maximum Resolution	1080p	5 MP	1080p
	Image Sensor Type	1/2.7" CMOS	1/3.2" CMOS	1/2.7" CMOS
	Day/Night	■	■	■
	IR Sensitive	■	■	■
	Minimum Illumination [day mode]	0.24 lux	0.5 lux	0.24 lux
	Minimum Illumination [night mode]	0.05 lux	0.075 lux	0 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■
	intelligent Auto Explosure [iAE]	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	■	■	■
	Intelligent Video Analysis [IVA]	–	–	–
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	■	■	■
	Region Of Interest Tracking	–	–	–
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	3-10 mm/36°-117°	3-10 mm/28°-87°	3-10 mm/36°-117°
	Automatic Back Focus	–	–	–
	Automatic Varifocal	–	–	–
Compression	Compression/Multi-streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	30 ips@1080p	12 ips@5MP	30 ips@1080p
Audio	Built-in Microphone	■	■	■
	Built-in loudspeaker	–	–	–
	Audio Line In/Out	■/■	■/■	■/■
Input/output	Alarm Input/Output	1/1	1/1	1/1
	Hybrid capability [continuous IP + Analog out]	(on service mode)	(on service mode)	(on service mode)
Electrical	Power Over Ethernet [PoE]	■	■	■
	Max. Power Consumption	3.84W	3.84W	5.4W
Environmental	Vandal Resistant	–	–	–
	All-weather Rating [outdoor]	–	–	–
	Operating Temperature	-20° to 50° C (-4° to 122° F)	-20° to 50° C (-4° to 122° F)	-20° to 50° C (-4° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	■
	Night Vision Maximum Range	–	–	15 m
Integration	ONVIF conformant	■	■	■

IP Video
Dome Cameras

▶FLEXIDOME IP outdoor 5000

Commercial Type Number		NDN-50022-V3	NDN-50051-V3	NDI-50022-V3
Camera Type		Outdoor HD dome camera with varifocal lens	Outdoor HD dome camera with varifocal lens	Outdoor HD dome camera with Built-in IR illuminator and varifocal lens
Imaging	Maximum Resolution	1080p	5 MP	1080p
	Image Sensor Type	1/2.7" CMOS	1/3.2" CMOS	1/2.7" CMOS
	Day/Night	■	■	■
	IR Sensitive	■	■	■
	Minimum Illumination [day mode]	0.24 lux	0.5 lux	0.24 lux
	Minimum Illumination [night mode]	0.05 lux	0.075 lux	0 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■
	intelligent Auto Explosure [iAE]	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	■	■	■
	Intelligent Video Analysis [IVA]	–	–	–
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	■	■	■
	Region Of Interest Tracking	–	–	–
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	3-10 mm/36°-117°	3-10 mm/28°-87°	3-10 mm/36°-117°
	Automatic Back Focus	–	–	–
	Automatic Varifocal	–	–	–
Compression	Compression/Multi-streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	30 ips@1080p	12 ips@5MP	30 ips@1080p
Audio	Built-in Microphone	–	■	–
	Built-in loudspeaker	–	–	–
	Audio Line In/Out	■/■	■/■	■/■
Input/output	Alarm Input/Output	1/1	1/1	1/1
	Hybrid capability [continuous IP + Analog out]	(on service mode)	(on service mode)	(on service mode)
Electrical	Power Over Ethernet [PoE]	■	■	■
	Max. Power Consumption	3.84W	3.84W	5.4W
Environmental	Vandal Resistant	IK10	IK10	IK10
	All-weather Rating [outdoor]	IP 66	IP 66	IP 66
	Operating Temperature	-30° to 50° C (-22° to 122° F)	-30° to 50° C (-22° to 122° F)	-30° to 50° C (-22° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	■
	Night Vision Maximum Range	–	–	15 m
Integration	ONVIF conformant	■	■	■

IP Video
Dome Cameras

		▸FLEXIDOME IP starlight 7000 VR	▸FLEXIDOME IP 7000 VR	▸FLEXIDOME IP dynamic 7000 VR
		starlight		
Commercial Type Number		**NIN-733-Vxxxx**	**NIN-832-Vxxxx**	**NIN-932-VxxIPx**
Camera Type		Intelligent high sensitivity HD dome camera (starlight) with motorized varifocal lens	Intelligent HD dome camera with motorized varifocal lens	Intelligent and High Dynamic Range HD dome camera with motorized varifocal lens
Imaging	Maximum Resolution	720p	1080p	1080p
	Image Sensor Type	1/3" CMOS	1/2.7" CMOS	1/3" CMOS
	Day/Night	■	■	■
	IR Sensitive	■	■	■
	Minimum Illumination [day mode]	0.017 lux (V03xx) 0.03 lux (V10xx)	0.22 lux (V03xx) 0.4 lux (V10xx)	0.25 lux (V03xx) 0.45 lux (V10xx)
	Minimum Illumination [night mode]	0.0057 lux (V03xx) 0.01 lux (V10xx)	0.05 lux (V03xx) 0.1 lux (V10xx)	0.08 lux (V03xx) 0.15 lux (V10xx)
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/■
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■
	intelligent Auto Explosure [iAE]	■ (IVA models only)	–	■
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	■	■	■
	Intelligent Video Analysis [IVA]	■ (depends on model)	■ (depends on model)	■
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	■	■	■
	Region Of Interest Tracking	■	■	■
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Face Detection JPEG posting (IVA models only), Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting (IVA models only), Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	3-9 mm/32°-96°(V03xx) 10-23 mm/12.4°-28° (V10xx)	3-9 mm/38°-121°(V03xx) 10-23 mm/14.8°-34° (V10xx)	3-9 mm/28°-83°(V03IPx) 10-23 mm/10.9°-24° (V10IPx)
	Automatic Back Focus	■	■	■
	Automatic Varifocal	■	■	■
Compression	Compression/Multi-streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	60 ips@720p	30 ips@1080p	30 ips @1080p
Audio	Built-in Microphone	–	–	–
	Built-in loudspeaker	–	–	–
	Audio Line In/Out	■/■	■/■	■/■
Input/output	Alarm Input/Output	2/1	2/1	2/1
	Hybrid capability [continuous IP + Analog out]	■	■	■
Electrical	Power Over Ethernet [PoE]	■	■	■
	Max. Power Consumption	7.2W	7.2W	7.2W
Environmental	Vandal Resistant	IK10	IK10	IK10
	All-weather Rating [outdoor]	IP 66	IP 66	IP 66
	Operating Temperature	-30° to 50° C (-22° to 122° F)	-30° to 50° C (-22° to 122° F)	-30° to 50° C (-22° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	–
	Night Vision Maximum Range	–	–	–
Integration	ONVIF conformant	■	■	■

IP Video
Dome Cameras

		▸FLEXIDOME IP starlight 7000 RD	▸FLEXIDOME IP 7000 RD	▸FLEXIDOME IP dynamic 7000 RD
Commercial Type Number		**NDN-733Vxx-xx**	**NDN-832Vxx-xx**	**NDN-932Vxx-IP**
Camera Type		Intelligent high sensitivity HD dome camera (starlight) with motorized back focus and varifocal lens	Intelligent HD dome camera with motorized back focus and varifocal lens	Intelligent and High Dynamic Range HD dome camera with motorized back focus and varifocal lens
Imaging	Maximum Resolution	720p	1080p	1080p
	Image Sensor Type	1/3" CMOS	1/2.7" CMOS	1/3" CMOS
	Day/Night	■	■	■
	IR Sensitive	■	■	■
	Minimum Illumination [day mode]	0.017 lux	0.22 lux	0.25 lux
	Minimum Illumination [night mode]	0.0057 Lux	0.05 lux	0.08 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/■
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■
	intelligent Auto Explosure [iAE]	■ (IVA models only)	–	■
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	■	■	■
	Intelligent Video Analysis [IVA]	■ (depends on model)	■ (depends on model)	■
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	■	■	■
	Region Of Interest Tracking	■	■	■
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting (IVA models only), Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting (IVA models only), Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	1.8-3 mm/77°-105°(V02-xx) 3.8-13 mm/21°-72°(V03-xx) 9-40 mm/7.1°-30° (V09-xx)	1.8-3 mm/87°-115°(V02-xx) 3.8-13 mm/26°-87°(V03-xx) 9-40 mm/8.5°-37° (V09-xx)	1.8-3 mm/70°-98°(V02-xx) 3.8-13 mm/19°-63°(V03-xx) 9-40 mm/6.2°-26° (V09-xx)
	Automatic Back Focus	■	■	■
	Automatic Varifocal	–	–	–
Compression	Compression/Multi-streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	60 ips@720p	30 ips@1080p	30 ips @1080p
Audio	Built-in Microphone	–	–	–
	Built-in loudspeaker	–	–	–
	Audio Line In/Out	■/■	■/■	■/■
Input/output	Alarm Input/Output	2/1	2/1	2/1
	Hybrid capability [continuous IP + Analog out]	(on service mode)	(on service mode)	(on service mode)
Electrical	Power Over Ethernet [PoE]	■	■	■
	Max. Power Consumption	12W	12W	12W
Environmental	Vandal Resistant	exceeding IK10	exceeding IK10	exceeding IK10
	All-weather Rating [outdoor]	IP 66 & IP 67	IP 67 & IP 67	IP 66 & IP 67
	Operating Temperature	-50° to 50° C (-58° to 122° F)	-50° to 50° C (-58° to 122° F)	-50° to 50° C (-58° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	–
	Night Vision Maximum Range	–	–	–
Integration	ONVIF conformant	■	■	■

IP Video
Fixed Cameras

		▸IP micro 2000		▸IP bullet 5000 HD
Commercial Type Number		**NPC-20002-F2**	**NPC-20012-F2**	**NTI-50022-V3**
Camera Type		Compact and stylish indoor IP microbox camera	Compact and stylish indoor HD microbox camera	Outdoor IP66 rated robust HD bullet camera with Built-in IR illuminator and varifocal lens
Imaging	Maximum Resolution	480p	720p	1080p
	Image Sensor Type	1/4" CMOS	1/4" CMOS	1/2.7" CMOS
	Day/Night	■ (Electronic)	■ (Electronic)	■
	IR Sensitive	–	–	■
	Minimum Illumination [day mode]	1 lux	1 lux	0.24 lux
	Minimum Illumination [night mode]	–	–	0 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■ /–
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■
	intelligent Auto Explosure [iAE]	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	–	■	■
	Intelligent Video Analysis [IVA]	–	–	–
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	–	–	■
	Region Of Interest Tracking	–	–	–
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	–
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	2.5 mm/75°	2.5 mm/89°	3-10 mm
	Automatic Back Focus	–	–	–
	Automatic Varifocal	–	–	–
Compression	Compression/Multi-streaming	H.264Quad Streaming	H.264Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	30 ips@480p	30 ips@720p	30 ips@1080p
Audio	Built-in Microphone	–	■	–
	Built-in loudspeaker	–	■	–
	Audio Line In/Out	–/–	–/–	■ /■
Input/output	Alarm Input/Output	–/–	–/–	1/1
	Hybrid capability [continuous IP + Analog out]	–	–	(on service mode)
Electrical	Power Over Ethernet [PoE]	–	■	■
	Max. Power Consumption	2.8W	3.7W	7.32W
Environmental	Vandal Resistant	–	–	IK8
	All-weather Rating [outdoor]	–	–	IP66
	Operating Temperature	-10° to 45° C (14° to 113° F)	-10° to 50° C (14° to 122° F)	-30° to 50° C (-22° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	■
	Night Vision Maximum Range	–	–	25 m
Integration	ONVIF conformant	■	■	■

IP Video
Fixed Cameras

		▸DINION IP starlight 7000 HD	▸DINION IP 7000 HD	▸DINION IP dynamic 7000 HD
Commercial Type Number		**NBN-733V**	**NBN-832V**	**NBN-932V**
Camera Type		Intelligent high sensitivity HD box camera (starlight)	Intelligent HD box camera	Intelligent and High Dynamic Range HD box camera
Imaging	Maximum Resolution	720p	1080p	1080p
	Image Sensor Type	1/3" CMOS	1/2.7" CMOS	1/3" CMOS
	Day/Night	■	■	■
	IR Sensitive	■	■	■
	Minimum Illumination [day mode]	0.017 lux	0.22 lux	0.25 lux
	Minimum Illumination [night mode]	0.0057 lux	0.05 lux	0.08 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■ /–	■ /–	■ /■
	intelligent Dynamic Noise Reduction [iDNR]	■	■	■
	intelligent Auto Explosure [iAE]	■ (IVA models only)	–	■
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	■	■	■
	Intelligent Video Analysis [IVA]	■ (depends on model)	■ (depends on model)	■
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	■	■	■
	Region Of Interest Tracking	■	■	■
Edge storage	SD Card Slot	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB	microSDXC Card Up to 2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting (IVA models only), Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting (IVA models only), Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	C/CS	C/CS	C/CS
	Automatic Back Focus	■	■	■
	Automatic Varifocal	–	–	–
Compression	Compression/Multi-streaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	60 ips@720p	30 ips@1080p	30 ips @1080p
Audio	Built-in Microphone	–	–	–
	Built-in loudspeaker	–	–	–
	Audio Line In/Out	■ /■	■ /■	■ /■
Input/output	Alarm Input/Output	2/1	2/1	2/1
	Hybrid capability [continuous IP + Analog out]	(on service mode)	(on service mode)	(on service mode)
Electrical	Power Over Ethernet [PoE]	■	■	■
	Max. Power Consumption	6W	10.8W	6W
Environmental	Vandal Resistant	–	–	–
	All-weather Rating [outdoor]	–	–	–
	Operating Temperature	-20° to 50° C (-4° to 122° F)	-20° to 55° C (-4° to 131° F)	-20° to 50° C (-4° to 122° F)
Night Vision	Integrated Infrared Lighting	–	–	–
	Night Vision Maximum Range	–	–	–
Integration	ONVIF conformant	■	■	■

IP Video
Specialty Cameras

		▸DINION imager	▸DINION IP imager 9000 HD	▸DINION IP capture 5000
Commercial Type Number		**NEI-30xV05-x3WE**	**NAI-90022-AAA**	**NER-L2Rx-1**
Camera Type		Intelligent all weather active IR IP camera	Intelligent all weather active IR IP camera	Licence Plate Capture IP camera for vehicles moving at speeds up to 225km/h (140 mph)
Imaging	Maximum Resolution	576p	1080p	576p
	Image Sensor Type	1/3" CCD	1/2.7" CMOS	1/3" CCD
	Day/Night	■	■	■
	IR Sensitive	■	■	■
	Minimum Illumination [day mode]	2.4 lux	N.C	0 lux
	Minimum Illumination [night mode]	0 lux	N.C	0 Lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	–	■	–
	intelligent Auto Explosure [iAE]	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	–	■	–
	Intelligent Video Analysis [IVA]	■	■	–
	Privacy Masking	■	■	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	–	■	–
	Region Of Interest Tracking	–	■	–
Edge storage	SD Card Slot	–	microSDHC/microSDXC Card Up to 32GB/2 TB	–
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting (FTP only)	Auto or Alarm JPEG Posting, Best Face Detection JPEG posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting (FTP only)
	Cloud firmware update	–	■	–
Optical	Lens/Horizontal Angle of View [HAoV]	5-50 mm	10 – 23 mm	Models which cover 4.9, 7.1, 10.2, 14.8, 21.3 m optimal distances
	Automatic Back Focus	–	■	–
	Automatic Varifocal	–	■	–
Compression	Compression/Multi-streaming	H.264 Tri-streaming	H.264 Quad Streaming	H.264 Tri-streaming
	Max. Images Per Second [IPS]	30 ips@576p	30 ips@1080p	30 ips@576p
Audio	Built-in Microphone	–	–	–
	Built-in loudspeaker	–	–	–
	Audio Line In/Out	–/–	■/■	–/–
Input/output	Alarm Input/Output	0/1	1/1	0/0
	Hybrid capability [continuous IP + Analog out]	(on service mode)	N.C.	(on service mode)
Electrical	Power Over Ethernet [PoE]	■	■	■
	Max. Power Consumption	35W	N.C.	22W
Environmental	Vandal Resistant	IK10	IK10	–
	All-weather Rating [outdoor]	IP67	IP66	IP67
	Operating Temperature	-40° to 50° C (-40°F to 122° F)	-40° to 50° C (-40°F to 122° F)	-40° to 50° C (-40°F to 122° F)
Night Vision	Integrated Infrared Lighting	■ (850 or 940nm)	■ (850nm)	■
	Night Vision Maximum Range	160 m (NEI-308)/80 m (NEI-309)	120 m	Capture range up to 28m
Integration	ONVIF conformant	■	■	■

IP Video
Specialty Cameras

		▸VOT thermal	▸FLEXIDOME IP corner 9000 MP
Commercial Type Number		**VOT-320-Vxxx**	**NCN-90022-F1**
Camera Type		Thermal IP camera	Rugged No-Grip Corner HD camera with Built-in IR illuminator
Imaging	Maximum Resolution	320 x 240	1080p
	Image Sensor Type	FPA - Vox	1/2.7" CMOS
	Day/Night	N.A	■
	IR Sensitive	Thermal	■
	Minimum Illumination [day mode]	N.A.	0.61 lux
	Minimum Illumination [night mode]	0 lux	0 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	–/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	–	■
	intelligent Auto Explosure [iAE]	–	–
Advanced features	Video Motion Detection [VMD]	■	■
	Audio detection	–	■
	Intelligent Video Analysis [IVA]	■	–
	Privacy Masking	N.A.	■
	Region Of Interest & Electronic PTZ [ROI] & [E-PTZ]	–	■
	Region Of Interest Tracking	–	–
Edge storage	SD Card Slot	SD Card Up to 32 GB	microSDHC/microSDXC Card Up to 32GB/2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■
	FTP and Dropbox accounts	Auto or Alarm JPEG Posting (FTP only)	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	–	■
Optical	Lens/Horizontal Angle of View [HAoV]	9 mm (-V9L, -V9H) 13 mm (-V13L, -V13H) 19 mm (-V19L, -V19H) 60 mm (-V60L, -V60H)	2 mm/121°
	Automatic Back Focus	–	–
	Automatic Varifocal	–	–
Compression	Compression/Multi-streaming	H.264 Tri-streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	8.3 ips@240p (-VxxL) 30 ips@240p (-VxxH)	30 ips@1080p
Audio	Built-in Microphone	–	–
	Built-in loudspeaker	–	–
	Audio Line In/Out	–/–	■/■
Input/output	Alarm Input/Output	2/2	1/1
	Hybrid capability [continuous IP + Analog out]	(NTSC on service mode)	(on service mode)
Electrical	Power Over Ethernet [PoE]	–	■
	Max. Power Consumption	75W	8.4W
Environmental	Vandal Resistant	–	IK10
	All-weather Rating [outdoor]	IP66	IP65
	Operating Temperature	-50° to 55° C (-58°F to 131° F)	-10° to 50° C (14°F to 122° F)
Night Vision	Integrated Infrared Lighting	Thermal 8.3 or 25 Hz	■ (940nm)
	Night Vision Maximum Range	1450m	9m
Integration	ONVIF conformant	■	■

IP Video
Moving Cameras

		▸AUTODOME easy II	▸AUTODOME junior HD	▸AUTODOME IP 7000	
Commercial Type Number		**VEZ-211/221**	**VJR-811/821/831**	**VG5-7028/7036**	**VG5-7220**
Camera Type		Compact IP PTZ Dome	Compact HD PTZ Dome	Stylish and Intelligent IP PTZ Dome	Stylish and Intelligent HD PTZ Dome
Imaging	Maximum Resolution	576p	1080p	576p	1080p
	Image Sensor Type	1/4" CCD	1/2.8" CMOS	1/4" CCD	1/2.8" CMOS
	Day/Night	–	■	■	■
	IR Sensitive	–	■	■	■
	Minimum Illumination [day mode]	1 lux	1.2 lux	0.66 lux (36x) 0.33 lux (28x)	0.8 lux
	Minimum Illumination [night mode]	–	0.06 lux	0.104 lux (36x) 0.066 lux (28x)	0.12 lux
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	–/–	■/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	–	–	–	–
	intelligent Auto Explosure [iAE]	–	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■	■
	Audio detection	–	■	■	■
	Intelligent Video Analysis [IVA]	■	■	■	■
	Intelligent Tracking	–	–	■	■
	Privacy Masking	12 masks	24 masks	24 masks	24 masks
	Virtual Masking	–	–	24 masks	24 masks
	Image Stabilization	–	–	■	–
	Nbr of presets/guard tours	99/2	99/2	256/2	256/2
Local storage	SD Card Slot	–	–	SDHC/SDXC Card Up to 32GB/2 TB	SDHC/SDXC Card Up to 32GB/2 TB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■	■
	FTP and Dropbox accounts applications	Auto or Alarm JPEG Posting (FTP only)	Auto or Alarm JPEG Posting (FTP only)	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	–	–	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	4.2 - 42 mm	6.3 - 63 mm	3.4-122.4 mm (x36) 3.5-98 mm (x28)	4.7 - 94 mm
	Zoom optical	10x	10x	36x or 28x	20x
	Zoom digital	12x	16x	12x	12x
	Tilt angle	-90° to +4°	-90° to 0°	-90° to 14° (pendant)	-90° to 14° (pendant)
Compression	Compression/Multistreaming	H.264 Tri-streaming	H.264 Tri-streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	30 ips@576p	60 ips@720p 30 ips@1080p	30 ips@576p	60 ips@720p 30 ips@1080p
Audio	Build in Microphone	–	–	–	–
	Audio Line In/Out	–/–	■/■	■/■	■/■
Input/output	Alarm Input/Output	2/1	2/1	7/4	7/4
	Hybrid capability [continuous IP + Analog out]	–	–	–	–
Electrical	Power Over Ethernet [PoE]	only Indoor	PoE+ (only Indoor)	HiPoE	HiPoE
	Max. Power Consumption	12W/27W (indoor/outdoor)	17W/42W (indoor/outdoor)	24W/60W (indoor/outdoor)	24W/60W (indoor/outdoor)
Environmental	Vandal Resistant	–	–	IK8 with rugged bubble	IK8 with rugged bubble
	Wiper	–	–	–	–
	All-weather Rating [outdoor]	IP65 (outdoor)	IP65 (outdoor)	IP66 (outdoor)	IP66 (outdoor)
	Operating Temperature	-30° to 50° C (-22° to 122° F)	-30° to 50° C (-22° to 122° F)	-40° to 55° C (-40°F to 131° F)	-40° to 55° C (-40°F to 131° F)
Night Vision	Integrated Infrared	–	–	–	–
	Night Vision Maximum Range	–	–	–	–
Integration	ONVIF conformant	■	■	■	■

IP Video
Moving Cameras

▶MIC with IP Power Supply

Commercial Type Number		MIC-550AL *	MIC-550IR *	MIC612 *
Camera Type		Rugged IP PTZ camera	Rugged IP PTZ camera with twin integrated IR illuminators	Rugged thermal PTZ camera
Imaging	Maximum Resolution	550 TVL	550 TVL	550 TVL (optical) 320x256/640x480 (thermal)
	Image Sensor Type	1/4" CCD	1/4" CCD	1/4" CCD/FPA
	Day/Night	■	■	■ (optical)
	IR Sensitive	■	■	■ (optical)
	Minimum Illumination [day mode]	0.66 lux (36x) 0.33 lux (28x)	0.66 lux (36x) 0.33 lux (28x)	0.66 lux (optical) N.A. (thermal)
	Minimum Illumination [night mode]	0.104 lux (36x) 0.066 lux (28x)	0 lux	0.104 lux (optical) 0 lux (thermal)
	Wide Dynamic Range [WDR]/High Dynamic Range [HDR]	■/–	■/–	■/–
	intelligent Dynamic Noise Reduction [iDNR]	–	–	–
	intelligent Auto Explosure [iAE]	–	–	–
Advanced features	Video Motion Detection [VMD]	■	■	■
	Audio detection	–	–	–
	Intelligent Video Analysis [IVA]	■	■	■
	Intelligent Tracking	–	–	–
	Privacy Masking	24 masks	24 masks	24 masks
	Virtual Masking	–	–	–
	Image Stabilization	–	–	–
	Nbr of presets/guard tours	99/2	99/2	99/2
Local storage	SD Card Slot	SDHC Up to 32GB	SDHC Up to 32GB	SDHC Up to 32GB
Cloud applications	Email with JPEG Alarm or SMS Alarm	■	■	■
	FTP and Dropbox accounts applications	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting	Auto or Alarm JPEG Posting, Video Clips or JPEG Exporting
	Cloud firmware update	■	■	■
Optical	Lens/Horizontal Angle of View [HAoV]	3.4-122.4 mm (x36) 3.5-98 mm (x28)	3.4-122.4 mm (x36) 3.5-98 mm (x28)	3.4-122.4 mm (optical) 35 mm (thermal T models) 50 mm (thermal H models)
	Zoom optical	36x or 28x	36x or 28x	36x
	Zoom digital	12x	12x	12x
	Tilt angle	-58° to 90° (upright) -103° to 90° (canted)	-58° to 90° (upright) -103° to 70° (canted)	-58° to 90°
Compression	Compression/Multistreaming	H.264 Quad Streaming	H.264 Quad Streaming	H.264 Quad Streaming
	Max. Images Per Second [IPS]	30 ips@576p	30 ips@576p	30 ips@576p
Audio	Build in Microphone	–/–	–/–	–/–
	Audio Line In/Out	–/–	–/–	–/–
Input/output	Alarm Input/Output	8/2 (optional card)	4/0	8/2 (optional card)
	Hybrid capability [continuous IP + Analog out]	■	■	■
Electrical	Power Over Ethernet [PoE]	–	–	–
	Max. Power Consumption	18W	18W (camera), 26W (Illuminator)	20.5VA (camera), 8.5VA (heater), 29VA total
Environmental	Vandal Resistant	IK9	IK9	IK9
	Wiper	■	■	■
	All-weather Rating [outdoor]	IP68	IP68	IP68
	Operating Temperature	-40° to 60° C (-40°F to 140° F)	-40° to 60° C (-40°F to 140° F)	-40° to 60° C (-40°F to 140° F)
Night Vision	Integrated Infrared	–	■	Thermal 8.3 or 25 Hz
	Night Vision Maximum Range	–	150 m	800 m (T models) 1500 m (H models)
Integration	ONVIF conformant	■	■	■

* IP features are possible when using optional MIC-IP-PSU Power Supply

IP Video
Software and Recording Solutions

Dynamic Transcoding Technology

View high quality HD video despite low or limited bandwidth connections. **Dynamic Transcoding Technology** ensures you can view your video immediately - anytime, anywhere.

Dynamic Transcoding includes three important stages:

- Lossless compression and encoding of the HD bit stream from the camera.
- Storage of the compressed data on a hard drive.
- Subsequent decoding and decompression of the data to a lower rate bit stream, tailored to the bandwidth of the connection.

The lower rate bit stream can be accessed immediately from the hard drive, via a limited bandwidth connection. This provide a low resolution viewing in real time. The stream can be retrieved later for reviewing the recorded video. When the video is paused, data associated with the frozen frame continues to be transmitted through the connection, to instantly construct the HD image of the scene.

Efficient Recording Technology

Bosch Video Recording Manager (VRM) provides a distributed Network Video Recorder solution. This eliminates the need for dedicated NVRs and signaling the second generation of IP network video recording.

VRM supports iSCSI-based storage systems and Bosch Video-Over-IP devices.

VRM introduces the concept of a storage virtualization layer.

This abstraction layer enables VRM to manage all of the individual disk arrays in the entire system as a single “virtual” common pool of storage, which is intelligently allocated as needed. VRM eliminates the need for classic Network Video Recorders (NVRs) and their associated server hardware, operating systems, and anti-virus software; as well as, the ongoing software patches and updates these systems require.

This new technology makes installation, operation and maintenance much easier, while reducing the total cost of ownership.

Bosch Video Management System

The Bosch Video Management System is a unique enterprise IP video security solution, which provides seamless management of digital video, audio, and data across any IP network.

It is designed to work with Bosch video security products as part of a total video security management system. You can integrate your existing components into one easy-to-manage system, or use our full-line capabilities. This means a complete security solution based on cutting-edge technology and years of experience.

The Bosch Video Management System allows a very flexible system design:

- Compact: Single Site System up to 2000 cameras
- Enterprise: Multi Site-Single Customer up to 10,000 cameras
- Enterprise: Multi Site-Multi Customer
  - Up to 10 subsystems with a total of up to 10,000 cameras.
  - Up to 30 subsystems for <100 cameras per subsystem
- Video clients view high quality images via low bandwidth
- Zero install web browser support
- Integration of ONVIF cameras
- Efficient distributed Network Video Recorder solution
- Remote access via public networks

IP Video
Digital Recording

All-in-one solution

▸DIVAR IP 3000

▸BRS HD Series

▸DIVAR IP 7000

Commercial Type Number			DIP-304x-xxx	BRS-xxx-xxxxx **	DIP-708x-xxx
Maximum system size (no. of cameras)			32	64	128
Mechanical		Form factor	4-bay Mini-Tower	Mid-Tower or 19-inch Rack Mount (1U/2U)	2U 19-inch Rack Mount
		Network connections (LAN)	1x Gigabit Ethernet	2x Gigabit Ethernet	2x Gigabit Ethernet
		USB ports	4x USB 2.0/1x USB 3.0	2x USB 2.0	4x USB 2.0
	Power Supplies	Number	1	Mid-Tower: 1, 19-inch Rack Mount: 2	2
		Redundant	–	19-inch Rack Mount	■
		Hot Swappable	–	19-inch Rack Mount	■
System	Processor	Type	Intel i3-2120	Mid-Tower: Intel® Pentium G6950 Dual Core 19-inch Rack Mount: Intel® Pentium G6950 Dual Core	Intel Xeon Quad Core X3430
		Speed	3.3 GHz, 1333MHz FSB	Mid-Tower: 2.8 GHz, 1333 MHz FSB 19-inch Rack Mount: U1/U2: 2.8 GHz, 1333 MHz FSB	2.40 GHz, 1333 MHz FSB
		Cache	3MB Cach	3MB L2 Cache	8M Cache
	Memory		4GB, DDR3-1333 SO-DIMM (2x2GB)	Mid-Tower: 4GB, DDR3-1333ECC UNB (2x2GB) 19-inch Rack Mount: 4GB, DDR3-1333ECC UNB (2x2GB)	4GB, DDR3-1333ECC UNB (2x2GB)
		RAID Levels	–	Mid-Tower: –, 19-inch Rack Mount: U1/U2: RAID-5	RAID-5
Video	Input	Max Channels per Unit	32	64	128
	Output	Connector type	1 DVI	Mid-Tower: 1 DVI 19-inch Rack Mount: VGA, only for programming	1 DVI, 1 DP
		Spot Monitor	1 per IP decoder	–	1 per IP decoder
Audio		Input/Output Channels	32 [audio playback via remote station only]	32 [audio playback via remote station only]	128 [audio playback via remote station only]
		Compression Type	G.726	G.726	G.726
		Synchronous Audio	■	■	■
		Associate Multiple Cameras to 1 Audio	■	■	■
Alarms		Inputs	32 via cameras + 144 via ADAM I/O module	64 via cameras + 144 via ADAM I/O module	128 via cameras + 144 via ADAM I/O module
		Call up Pre-Position on Dome Cameras	■	■	■
		Increase Frame Rate on Alarm	■	■	■
		Simultaneous Normal & Event Recording	■	■	■
		Multiple Camera Linking on Alarm Event	■	■	■
		Notification via Email	■	■	■
		Pre-Alarm	■	■	■
		Motion Detection	■	■	■
Recording		Video Compression	H.264, MPEG-4, ONVIF, RTSP, JPEG	H.264, MPEG-4, JPEG	H.264, MPEG-4, ONVIF, RTSP, JPEG
		IPS Per Camera	30 IPS	30 IPS	30 IPS
		Supported Resolutions	CIF/2CIF/4CIF/720p/1080p/5MP	CIF/2CIF/4CIF/720p/1080p/3MP	CIF/2CIF/4CIF/720p/1080p/5MP
		Schedule Recording Modes	■	■	■
Export		Supported Devices	External CD/DVD Writer, USB 2.0, USB 3.0, iSCSI	Internal CD/DVD Writer, USB 2.0, Network Drive	External CD/DVD Writer, USB 2.0, iSCSI
		Data Format	WMF, Bosch ASF	WMF, Bosch ASF	WMF, Bosch ASF
		Back-up Mode	Manual or Automatic	Manual or Automatic	Manual or Automatic
Search		Timeline Search Bar [Color Coded]	■	■	■
		Search Mode	Date/time, Device, Events, Alarm State/ Priority, Smart Motion Search, IVA	Date/time, Camera Name, Events, Pre-Alarm, Motion, Smart Motion Search	Date/time, Device, Events, Alarm State/Priority, Smart Motion Search, IVA
		Smart Motion Search	■	■	■

			All-in-one solution		
			▸DIVAR IP 3000	▸BRS HD Series	▸DIVAR IP 7000
Commercial Type Number			**DIP-304x-xxx**	**BRS-xxx-xxxxx ****	**DIP-708x-xxx**
Remote Access		Network	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet
		Web Browser Access	■	■	■
		Simultaneous Accessible Users	5	20	10
		Mobile Client	■ Video security app	–	■ Video security app
PC –Client		Admin Control	■	■	■
		PTZ Control	■	■	■
		Export Options	■	■	■
Display		Live Resolution [PAL/NTSC]	CIF/2CIF/4CIF/720p/1080p/5MP	CIF/2CIF/4CIF/720p/1080p/5MP	CIF/2CIF/4CIF/720p/1080p/5MP
		Screen Division [Multiscreen]	Full, 3x3, 4x4, 4x5, 5+6	4:3: Full, 2x2, 3x3, 4x4, 5x6, 5+1, 7+1, 9+1, 12+1, 16+1, 8+2, 9+4 –16:9: 2x3, 3x4, 2+1, 3+1, 4+2, 6+2, 6+3	Full, 3x3, 4x4, 4x5, 5+6
Security	User Control	User Levels	■	■	■
		Camera Lockouts by User	■	■	■
		Set Viewing Permissions	■	■	■
		Data Integrity Check (e.g. Watermarking)	■	■	■
Storage	Base System	Maximum Drives Supported	4	Tower: 4, 19-inch Rack Mount 1U: 4 / 2U 8:	8
		Available Capacities per drive	2 TB	Tower: 1TB, 19-inch Rack Mount 1U/2U: 2TB	2 TB
		Hot Swappable	–	–	■
	Storage Expansion	Number of Expansion Units (max.)	1x DIVAR IP 2000	–	4x DIVAR IP 6000
		Maximum Drives Supported	4	–	4 or 8
		Available Capacities per drive	2 TB	–	2 TB
		Hot Swappable	–	–	■
		Expansion Links	iSCSI	–	iSCSI
	Capacity	Base System [Raw]	8 TB	Tower: 4TB, 19-inch Rack Mount 1U: 8 TB, 2U: 16TB	16 TB
		Base System [RAID Config.]	–	Tower: –, RAID-5: 19-inch Rack Mount 1U 5.54 TB / 2U 12.93 TB	12.93 TB
		Base System + Expansion [Raw]	–	–	–
		Base System + Expansion [RAID Config.]	–	–	–
Performance		Array Throughput/Bandwidth	100 Mbps	recording rate: 100 Mbps	200 Mbps
		Drive Throughput	–	n.a.	–
		Max. iSCSI Camera Connections	–	n.a.	–
		Max. iSCSI Replay Sessions	–	n.a.	–
Monitoring	Remote Mgmt.	Web Client	■	■	■
	Monitoring	SNMP	■	■	■
		Alerts	■ e-Mail, LAN broadcast	■ eMail	■ e-Mail, LAN broadcast
Platform Support	Supported HW	Recorders	DIVAR IP 2000	–	DIVAR IP 6000 and BRS HD Series
	Supported SW	BVC	–	■	–
		BVMS	■ [v4.50 or newer]	■	■ [v2.20 or newer]
		VRM	■ [v3.00 Embedded]	–	■ [v2.11 Embedded]
Other		Instant Playback	■	■	■
		Digital Zoom [Live/Playback]	■/■	■/■	■/■
		PTZ Joystick Control	■	–	■
		ATM/POS Interface	■	■	■
		Transcoding	■	–	■
		Low bandwidth support (WAN)	■	■	■

o * via Bosch video software

** not all models are available in all regions, please check with your local sales representive.

IP Video
Digital Storage

Network Video Recorder					
	▸DIVAR IP 2000	▸DLA 1200 Series	▸DIVAR IP 6000 1U	▸DIVAR IP 6000 2U	▸DSA-Series

Commercial Type Number			DIP-204x-xxx	DLA-AIOxx-xxx	DIP-604x-xxx	DIP-604x-xxx	DSA-Nxxxxx-xxxx
Maximum system size (no. of cameras)			16	32	128	128	400
Mechanical		Form factor	4-bay Mini-Tower	Mid-Tower	1U 19-inch Rack Mount	2U 19-inch Rack Mount	2U 19-inch Rack Mount
		Network connections (LAN)	1x Gigabit Ethernet	1x Gigabit Ethernet	2x Gigabit Ethernet	2x Gigabit Ethernet	1x Gigabit Ethernet/ 10x Gigabit Ethernet
		USB ports	2x USB 2.0	2x USB 2.0	4x USB 2.0	4x USB 2.0	–
	Power Supplies	Number	1	1	2	2	2
		Redundant	–	–	–	–	■
		Hot Swappable	–	–	■	■	■
System	Processor	Type	Intel® Atom D525	Intel® Pentium G6950 Dual Core	Intel® Pentium G6950 Dual Core	Intel® Pentium G6950 Dual Core	Single-core PPC I/O Processor
		Speed	1.80 GHz, 1333 MHz FSB	2.8 GHz, 1333 MHz FSB	2.8 GHz, 1333 MHz FSB	2.8 GHz, 1333 MHz FSB	800MHz LSISAS2116
		Cache	1MB L2 Cache	3MB L2 Cache	3MB L2 Cache	3MB L2 Cache	32 kB Data Cache; 512 kB L2 Cache
	Memory		4GB, DDR3-1333 SO-DIMM (2x2GB)	4GB, DDR3-1333ECC UNB (2x2GB)	4GB, DDR2-800 ECC RAM	4GB, DDR2-800 ECC RAM	2GB, DDR2 SDRAM VLP DIMM
		RAID Levels	–	–	RAID-5	RAID-5	RAID-5/RAID-6
Video	Input	Max Channels per Unit	16	32	128	128	400
	Output	VGA	VGA	VGA	VGA	VGA	–
		Spot Monitor	1 per IP decoder	1 per IP decoder	1 per IP decoder	1 per IP decoder	–
Audio		Input/Output Channels	16 [audio playback via remote station only]	[audio playback via remote station only]	128 [audio playback via remote station only]	128 [audio playback via remote station only]	400 [audio playback via remote station only]
		Compression Type	G.726	G.726	G.726	G.726	G.726
		Synchronous Audio	■	■	■	■	■
		Associate Multiple Cameras to 1 Audio	■	■	■	■	■
Alarms		Inputs	16 via camera	32 via camera	128 via camera	128 via camera	400 via camera
		Call up Pre-Position on Dome Cameras	■	■	■	■	–
		Increase Frame Rate on Alarm	■	■	■	■	–
		Simultaneous Normal & Event Recording	■	■	■	■	–
		Multiple Camera Linking on Alarm Event	–	–	–	–	–
		Notification via Email	■	■	■	■	–
		Pre-Alarm	■	■	■	■	–
		Motion Detection	■	■	■	■	–
Recording		Video Compression	H.264, MPEG-4, ONVIF, RTSP, JPEG	H.264, MPEG-4, ONVIF, RTSP, JPEG	H.264, MPEG-4, ONVIF, RTSP, JPEG	H.264, MPEG-4, ONVIF, RTSP, JPEG	H.264, MPEG-4, ONVIF, RTSP, JPEG
		IPS Per Camera	25/30 IPS	30 IPS	30 IPS	30 IPS	30 IPS
		Supported Resolutions	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP
		Schedule Recording Modes	■	■	■	■	■
Export		Supported Devices	External CD/DVD Writer, USB 2.0, iSCSI	External CD/DVD Writer, USB 2.0, iSCSI	External CD/DVD Writer, USB 2.0, iSCSI	External CD/DVD Writer, USB 2.0, iSCSI	External CD/DVD Writer, USB 2.0, iSCSI
		Data Format	WMF, Bosch ASF	WMF, Bosch ASF	WMF, Bosch ASF	WMF, Bosch ASF	WMF, Bosch ASF
		Back-up Mode	Manual	Manual	Manual	Manual	Manual or Automatic
Search		Timeline Search Bar [Color Coded]	o *	o *	o *	o *	–
		Search Mode	Date/time, Device, Smart Motion Search, IVA	Date/time, Device, Smart Motion Search, IVA	Date/time, Device, Smart Motion Search, IVA	Date/time, Device, Smart Motion Search, IVA	–
		Smart Motion Search	o *	o *	o *	■	–

			Network Video Recorder				
			▸DIVAR IP 2000	▸DLA 1200 Series	▸DIVAR IP 6000 1U	▸DIVAR IP 6000 2U	▸DSA-Series
Commercial Type Number			**DIP-204x-xxx**	**DLA-AIOxx-xxx**	**DIP-604x-xxx**	**DIP-604x-xxx**	**DSA-Nxxxxx-xxxx**
Remote Access		Network	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	10/100/1000 Ethernet	1x Gigabit Ethernet/ 10x Gigabit Ethernet
		Web Browser Access	■	■	■	■	–
		Simultaneous Accessible Users	5	5	5	5	–
		Mobile Client	■ Video security app	■ Video security app	■ Video security app	■ Video security app	–
PC –Client		Admin Control	o *	o *	o *	o *	–
		PTZ Control	o *	o *	o *	o *	–
		Export Options	o *	o *	o *	o *	–
Display		Live Resolution [PAL/NTSC]	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP	CIF/2CIF/4CIF/720p/ 1080p/5MP	–
		Screen Division [Multiscreen]	o *	o *	o *	o *	–
Security	User Control	User Levels	o *	o *	o *	o *	–
		Camera Lockouts by User	o *	o *	o *	o *	–
		Set Viewing Permissions	o *	o *	o *	o *	–
		Data Integrity Check (e.g. Watermarking)	■	■	■	■	■
Storage	Base System	Maximum Drives Supported	4	4	4	8	12
		Available Capacities per drive	2 TB	1 TB	2 TB	2 TB	3 TB
		Hot Swappable	–	–	■	■	■
	Storage Expansion	Number of Expansion Units (max.)	–	–	4x DIVAR IP 6000	4x DIVAR IP 6000	7/3 ***
		Maximum Drives Supported	–	–	4 or 8	4 or 8	12/60 ***
		Available Capacities per drive	–	–	2 TB	2 TB	2 TB/3 TB ***
		Hot Swappable	–	–	■	■	■
		Expansion Links	iSCSI	iSCSI	iSCSI	iSCSI	6Gb/s SAS [Copper]
	Capacity	Base System [Raw]	8 TB	4 TB	8 TB	16 TB	12 TB
		Base System [RAID Config.]	–	–	5.54 TB	12.93 TB	[RAID-5] 20.482 TB [RAID-6] 18.620 TB
		Base System + Expansion [Raw]	–	–	–	–	192 TB / 576 TB ***
		Base System + Expansion [RAID Config.]	–	–	–	–	[RAID-5] 164 TB/482 TB *** [RAID-6] 149 TB/438 TB ***
Performance		Array Throughput/Bandwidth	100 Mbps	150 Mbps	200 Mbps	200 Mbps	500 Mbps [Base] 800 Mbps [Base + Shelf]
		Drive Throughput	3.0 Gbps	3.0 Gbps	3.0 Gbps	3.0 Gbps	6.0 Gbps
		Max. iSCSI Camera Connections	16	32	64	64	400
		Max. iSCSI Replay Sessions	4	8	8	8	32
Monitoring	Remote Mgmt.	Web Client	–	–	–	–	SANtricity
	Monitoring	SNMP	–	–	–	–	–
		Alerts	–	–	–	–	■ [via dedicated SNMP Server]
Platform Support	Supported HW	Recorders	–	–	DIVAR IP 6000	DIVAR IP 6000	■
	Supported SW	BVC	■	■	■	■	–
		BVMS	■ [v2.20 or newer]	■ [v2.20 or newer]	■ [v2.20 or newer]	■ [v2.20 or newer]	–
		VRM	■ [v2.11 Embedded]	■ [v2.11 Embedded]	■ [v2.11 Embedded]	■ [v2.11 Embedded]	–
Other		Instant Playback	o *	o *	o *	o *	–
		Digital Zoom [Live/Playback]	o *	o *	o *	o *	–
		PTZ Joystick Control	o *	o *	o *	o *	–
		ATM/POS Interface	–	–	–	–	–
		Transcoding	■	–	■	■	–

o * via Bosch video software

*** Up to three high-density shelf expansion units (60 x 3 TB HDD per expension shelf) to one Dual controller base unit may be connected - CTN:DSA-N2C6X2-12AT

IP Video
Video Software

		▸Advanced Viewing Client	▸Video Management System		
Commercial Type Number		**BVC [v1.4]/Rec@edge**	**BRS [v8.11] including Appliance**	**BVMS [v4.5] Lite**	**BVMS [v4.5] Pro**
	Channel Count	Up to 128	Up to 64 per Station	32 to 64	8 to 200,000
	System Architecture Support	Standalone	Standalone or Peer-to-Peer [200 max.]	Standalone to Client Server	Client Server [one server/2000 cameras] Multi Server [up to 30 servers/10,000 cameras] Multi-System [unlimited servers/cameras]
	Full VMS	Advanced Viewing Client	Recorder + Viewing Client	Full VMS	Full VMS
	Software based Video IP Platform	■	■	■	■
	ONVIF for 3rd Party Camera Intergration	■ [with VRM2.30/VSG1]	■ [with v8.10]	■	■
	Multi-site Support [independent systems tied together]	–	■ [via VPN tunnelled connection]	■	■
	Multi-site Support [dispersed system recording, cameras, remote independent client]	–	Independant Client with VPN or via Web, one site at a time	■	■
	Mobile Clients	–	–	■ MVS Licence required; max 20 connection per site	■ MVS Licence required; max 20 connection per site
	Workstations/Clients	1 standalone at a time [separate config needed]	5 web connections, 20 clients	2 clients for 32; 4 clients for 64	100 [Client-Server and Multi-Server]; Unlimited [Multi-System]
	LDAP	–	■	■	■
	COTS [Commercial off the Shelf] for Server/Workstation	■	■	■	■
Resolution	HD-ready	■	■	■	■
	SD and HD	■	■	■	■
	SD and HD Decoder support	■	–	■	■
	Monitor Wall Client GUI Support	■	–	■	■
Encoding	H.264	■	■	■	■
	MPEG-4	■	■	■ [via BRS only]	■ [via BRS only]
	3rd party camera support	ONVIF 1.02/Profile-S with DLA	AXIS MPEG-4 [No PTZ]; ONVIF 1.02/ Profile-S	■ ONVIF 1.02/Profile-S	■ ONVIF 1.02/Profile-S
	H.264 and MPEG-4 & HD Decoder support	H.264, MPEG-4	–	H.264, MPEG-4	H.264, MPEG-4
Display	Multi-monitor support	■ [2]	■ [via browser or BVC]	■ [4]	■ [4]
	Workstation OS support	XP, Vista, Win7,SP1	Win XP SP3 [32-bit]; Win7 [32/64-bit]	XP, Win7,SP1	XP, Win7,SP1
	16:9 Monitor support	■	■	■	■
	Mapping	–	–	■	■
	Dynamic cameo scaling	■	–	–	–

		▸Advanced Viewing Client	▸Video Management System		
Commercial Type Number		**BVC [v1.4]/Rec@edge**	**BRS [v8.11] including Appliance**	**BVMS [v4.5] Lite**	**BVMS [v4.5] Pro**
Alarm Management	User management	–	■	■	■
	Digital I/O alarms	■	■	■	■
	System event alarms	■	■	■	■
	Motion alarms	■	■	■	■
	Event response and command scripts	–	■	■	■
	IVA alarms	■	■	■	■
	IVA forensics	■	–	■	■
	Audio	■	■	■	■
Control	AutoDome Intelligent Tracking	■	–	–	–
	PTZ	■	■	■	■
	IntuiKey	■ [limited functionality]	■ [via BVC only]	■	■
	Virtual matrix	–	–	■	■
Storage	@edge camera support	■	–	■	■
	iSCSI	■	–	■	■
	NVR support	–	■	■ [BRS, VIDOS]	■ [BVMS Appliance BRS, VIDOS]
	VRM	■ [via DLA]	–	■ [via DLA]	■
	IVA metadata	■	–	■	■
	Failover/recording	–	–	–	■
	DLA Support [VRM Mode]	■ [1]	–	■ [5]	■ [40]
Integration	BVMS	–	■	–	–
	BRS	■	–	■	■
	DxR 400/600/700	■	–	■	■
	BVC	–	■	–	–
	Bosch G Series panel	–	■	–	–
	Access	–	■	■	■
	OPC	–	■	■	■
	CLI/CCL	–	■	■	■
	ATM/POS	–	■	■	■
Networking	LAN/intranet	■	■	■	■
	WAN	–	■ [via hardware VPN]	■	■
	Remote/Decoupled Client	–	■	■	■
	Mobile Viewing APP	–	–	■ [Apple only]	■ [Apple only]
	Web Client	–	■	■	■

IP Video
Encoders and Decoders

Encoders

▸VIP X1XF E

▸VIP X1XF

▸VIDEOJET X20 XF E

▸VIDEOJET X40 XF E

▸VIP X16 XF E

Decoders

▸VIDEOJET decoder 3000

▸VIDEOJET decoder 7000

Transcoders

▸VIDEOJET XTC XF

Commercial Type Number		VIP-X1XF-E	VIP-X1XF	VJT-X20XF-E	VJT-X40XF-E	VIP-X16XF-E	VJD-3000	VJD-7000	VJT-XTCXF
	Description	Single Channel Video Encoder	Single Channel Premium Encoder	2 Channel H.264 Video Encoder	4 Channel H.264 Video Encoder	16 Channel H.264 Video Encoder	Single/Quad-stream Decoder	HD Video Decoder	4 Channel/Dual-stream Transcoder
Video/Audio	Camera Inputs	1	1	2	4	16	–	–	4
	Monitor Outputs	–	–	–	–	–	1 of 2 [HDMI, CVBS]	2 of 3 [DVI-I, HDMI, DP]	–
	Video Codec	H.264	H.264	H.264 MP H.264 BP	H.264 MP H.264 BP	H.264 MP H.264 BP	H.264 High Profile H.264 MP H.264 BP M-JPEG JPEG	H.264 MPEG-4	H.264 MP H.264 BP
	Frame Rate [IPS]	25/30 @ 4CIF	25/30 @ 4CIF	25/30	25/30	25/30 @ 4CIF	30 @ 1080p [single view] 60 @ 720p [single view] 4x 25/30 @ 4CIF [quad view]	4x 30 @ 1080p 4x 60 @ 720p 20x 25/30 @ 4CIF	25/30 @ 4CIF
	Audio In/Out	1/1	1/1	2/1	2/1	2/1	1/1	1/1	–
	Transcoding at the edge	–	–	■	■	–	–	–	■
Storage	Type	SD Card	SD Card	CF	CF	–	–	–	CF
	Capacity	2 TB	2 TB	2 TB	2 TB	–	–	–	2 TB
Intelligence	Direct-to-iSCSI	■	■	■	■	■	–	–	–
	Video Analytics	Motion+	IVA	Motion+	Motion+	Motion+	–	–	–
Interfaces	Alarm In	1	2	4	4	4	4	–	4
	Relay Out	1	2	1	1	1	1	–	1
	ONVIF conformant	■	■	■	■	■	–	–	–
Other	Keyboard	–	–	–	–	–	■	–	–
	IP Matrix	–	–	–	–	–	■	–	–

▸Modular Systems

Commercial Type Number		VIP X1600-B	VIP X1600-XFB
	Description	Base System	Base System
	Bays	4	4
	Ethernet	Two 1 Gbps ports [1 front, 1 rear]	Three 1 Gbps ports [2 front, 1 rear]
	SFP Fiber Slot	–	■

2.8 – 12 mm

Commercial Type Number		VIP X1600 XFM4A	VIP X1600 XFM4B
	Description	4 Channel H.264 Encoder Module	4 Channel H.264 Encoder Module with Bilinx
Video/Audio	Camera Inputs	4	4
	Video Codec	H.264 MP H.264 BP+ M-JPEG	H.264 MP H.264 BP+ M-JPEG
	Frame Rate [IPS]	25/30 @ 4CIF	25/30 @ 4CIF
	Audio In/Out	2/1	2/1
Intelligence	Direct-to-iSCSI	■	■
	Video Analytics	IVA	IVA
Interfaces	Alarm In	4	4
	Relay Out	1	1
	SFP Fiber Slot	■	■
	ONVIF conformant	■	■

IP Video
Flat Panel Monitors

▸High Definition

		UML-193-90	UML-223-90	UML-273-90	UML-323-90	UML-423-90	UML-553-90
Display	Type	19" LED	22" LED	27" LED	32" LED	42" LED	55" LED
	Max Pixel Resolution	1366 x 768	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080	1920 x 1080
	Horizontal Resolution	650 TVL	650 TVL	650 TVL	650 TVL	650 TVL	650 TVL
	Aspect Ratio	16:9	16:9	16:9	16:9	16:9	16:9
	Brightness (cd/m²)	250	250	300	350	500	450
	Contrast Ratio	1000:1	1000:1	3000:1	3000:1	4000:1	4000:1
	Backlight	30,000 hours	30,000 hours	30,000 hours	50,000 hours	50,000 hours	50,000 hours
	Viewing Angle (HxV)	170° x 160°	170° x 160°	178° x 178°	178° x 178°	178° x 178°	178° x 178°
Composite Video / Audio Loop-through		Passive	Passive	Passive	Passive	Passive	Passive
PC Compatible		■	■	■	■	■	■
Connectors	Composite Video (BNC)	–	–	2 [looping video]	1 [looping video]	2 [looping video]	2 [looping video]
	VGA	■	■	■	■	■	■
	DVI-D	■	■	■	■	■	■
	HDMI	■	■	■	■	■	■
Audio	Input	■	■	■	■	■	■
	Speaker	■	■	■	■	■	■
Mechanical	Width	448 mm	515 mm	642 mm	745 mm	977 mm	1256 mm
	Height	332 mm*	370 mm*	380 mm	440 mm	570 mm	727 mm
	Depth	182 mm*	182 mm*	76 mm	77 mm	83 mm	83 mm
	Weight	3.0 kg	3.6 kg	9.1 kg	12.5 kg	20 kg	32 kg
Power	Power Supply	Integrated	Integrated	Included	Integrated	Integrated	Integrated
	Power Consumption	42W	42W	75W	75W	150W	170W
Misc.	Picture-in-picture	–	–	–	–	–	–
	Front Panel Lockout	■	■	■	■	■	■
	IR Remote	–	–	–	■	■	■
Cables Included	VGA-to-VGA	■	■	■	■	■	■
	DVI-to-DVI	■	■	■	■	■	■
Mounting	VESA Compliant	■	■	■	■	■	■
	Rack-mountable	–	–	–	–	–	–
	Table Stand	Included	Included	Included	UMM-LED32-SD	UMM-LED42-SD	UMM-LED42-SD
	Fixed Wall Mount	–	–	–	–	ST660	ST660
	Swivel/Tilt Wall Mount	–	–	UMM-WMT-32	UMM-WMT-32	–	–